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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 09/893,299
Filing Date: June 27, 2001
Appellant(s): DAVIS ET AL.

Ernest J. Beffel, Jr.
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed December 1, 2006 appealing from the Office action mailed February 18, 2005.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is incorrect. A correct statement of the status of the claims is as follows:

This appeal involves claims 1-12.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is substantially correct. The changes are as follows: The examiner has and will continue to treat Prager as the primary reference and will continue to reject the claims based on the teachings of Prager in view of Pugh. Thus, claims 1-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Prager (US Patent Number 5,943,670, issued on August 24, 1999) in view of Pugh et al. (hereinafter Pugh, US Patent Number 6,658,423, filed on January 24, 2001).

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

| 6,658,423 | Pugh et al. | 12-2003 |
| 5,943,670 | Prager | 8-1999 |

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claims 1-12 remain rejected under 35 U.S.C. 103(a) as being unpatentable over Prager (US Patent Number 5,943,670, issued on August 24, 1999) in view of Pugh et al. (hereinafter Pugh, US Patent Number 6,658,423, filed on January 24, 2001).

Regarding independent claim 1, Prager discloses a method in which in a set of documents the nearest neighbors of a document are selected based on nearest

neighbor similarity scores (column 1, line 55-column 2, line 42 of Prager). Prager does not disclose that the documents viewed to be identical are flagged as potential duplicates. However, Pugh discloses a method in which based on detection scores a document is selected as being potentially duplicate (column 7, line 26-column 8, line 28 of Pugh). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used the method of Prager with method of Pugh it would have allowed for duplicates to be eliminated from categories providing more accurate search results.

Regarding dependent claim 2, Prager does not disclose that the documents viewed to be similar based on a score are flagged as potential duplicates. However, Pugh discloses a method in which based on detection scores (higher than a certain tolerance) a document is selected as being potentially duplicate (column 7, line 26-column 8, line 28 of Pugh). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used the method of Prager with method of Pugh it would have allowed for duplicates to be eliminated from categories providing more accurate search results.

Regarding dependent claims 3 and 4, Prager discloses a method in which the nearest neighbor calculations, which in this case are k nearest neighbor calculations, are not detected for duplicate detection rather they are used to categorize the documents (column 1, line 55-column 2, line 42 of Prager).

Regarding dependent claims 5 and 6, Prager discloses a method in which the documents can be text documents with visual formatting (column 4, line 34-column 5, line 3 of Prager).

Regarding dependent claims 7 and 8, Prager discloses a method in which the documents may consist of audio presentations (column 4, line 34-column 5, line 3 of Prager). It would have been obvious to one of ordinary skill in the art at the time the invention was made that it was well known that voice recordings and musical performances were audio presentations.

Regarding dependent claim 9, Prager discloses a method in which the documents can be images (column 4, line 34-column 5, line 3 of Prager).

Regarding dependent claim 10, Prager discloses a method in which only k nearest neighbor calculations are used for similarity scores (column 1, line 55-column 2, line 42 of Prager).

Regarding independent claim 11 and dependent claim 12, the claims incorporate substantially similar subject matter as claims 1 and 2. Thus, the claims are rejected along the same rationale as claims 1 and 2.

(10) Response to Argument

Appellant's arguments filed 8/18/2005 have been fully considered but they are not persuasive.

Regarding the appellant's arguments on pages 2-4, regarding the "triangulation element" in claims 1 and 11 and whether or not it is disclosed by Prager in view of

Pugh, the examiner believes that the rejection is proper based on the fact that the

combination of the references renders the claimed invention obvious. The appellant

argues that neither Pugh nor Prager include the triangulation element, even specifically

stating that the triangulation is used to detect duplicates in a k nearest neighbor set

(page 2, lines 22-24, of Appellant's Brief), however it is unclear to the examiner where

the "triangulation element" exists in claims 1 and 11. In addition to this, the examiner

feels it necessary to point out that the "nearest neighbors" that are selected are not

limited to "k nearest neighbors" until dependent claims 4 and/or 10 for independent

claim 1, and are never limited to "k nearest neighbors" for independent claim 11. The

claim states that for a document, nearest neighbors of that document are selected from

the set of documents, these nearest neighbor candidates are then flagged as potentially

duplicate documents if the nearest neighbor similarity scores are the same (see claim 1

and claim 11). As it is claimed, the invention analyzes the nearest neighbors of

document based on their similarity score and deems them as potential duplicates if they

are identically scored. These independent claims have no additional limitations; there

exists no mention of triangulation elements or k nearest neighbor scores in these

claims. Prager discloses a method in which in a set of documents the nearest

neighbors or a document are selected based on nearest neighbor similarity scores

(column 1, line 55-column 2, line 42 of Prager), thus teaching the first element of claims

1 and 11, in which a nearest neighbor similarity score is generated and nearest

neighbor documents are selected based on the score. Pugh teaches that documents

may be selected as being potentially identical based on similarity detection scores

(column 7, line 26-column 8, line 28 of Pugh). One of ordinary skill in the art at the time the invention was made would appreciate the obviousness of applying the method of Pugh using the nearest neighbor similarity scores of Prager, in fact one would appreciate the ability to use any similarity score in the teachings of Pugh because the teachings relied upon in this rejection are simply the ability to compare numbers and make a determination of whether or not documents are potentially identical based on those number, thus any similarity scores generated could be easily applied in the teachings of Pugh. Thus, as the rejection stands Prager teaches that nearest neighbor similarity scores are generated based on nearest neighbors of particular document (the first limitation of the claim), and Pugh teaches that similarity scores can be used to make determination of whether of not documents are potentially duplicate (the second limitation of the claim).

The examiner disagrees with the appellant's arguments on pages 4-11, regarding the inability to combine the references due to lack of motivation. The motivation as shown in the previous rejection is drawn from the Pugh reference (column 7, line 56-column 8, line 6). This section discloses that in a group of results, near-duplicate documents (which includes exact duplicate documents) may be eliminated and in the final results presentation only one of every set of duplicate documents is presented, thus decreasing unwanted repetitious results and increasing the accuracy of the returned results and the user's ability to find the relevant information being sought (column 7, line 66-column 8, line 6 of Pugh). The Prager reference teaches that categorization results in sets of documents are determined and presented to users,

because categorization provides a way of grouping objects that are similar into sets, thus making it easier for users to navigate through the results (column 1, lines 13-55 of Prager). Both Prager and Pugh direct teachings toward increasing the accuracy of results and the user's ability to navigate to the most relevant information being sought. When the methods of Prager and Pugh are combined, it would increase the accuracy of the results as a whole by eliminating duplicates, thus increasing the accuracy of the categorization by eliminating duplicates from the results presented for categorization and increasing the user's ability to navigate to the relevant information being sought.

The appellant also argues that the combination of the two references would render the primary reference unsuitable for its intended use and changing its principle of operation. The primary reference as cited in the rejections presented to the appellant is the Prager reference. The Prager reference teaches that categorization results in sets of documents are determined and presented to users, because categorization provides a way of grouping objects that are similar into sets, thus making it easier for users to navigate through the results (column 1, lines 13-55 of Prager). Both Prager and Pugh direct teachings toward increasing the accuracy of results and the user's ability to navigate to the most relevant information being sought. When the methods of Prager and Pugh are combined, it would increase the accuracy of the results as a whole by eliminating duplicates, thus increasing the accuracy of the categorization by eliminating duplicates from the results presented for categorization and increasing the user's ability to navigate to the relevant information being sought. The appellant argues that because that Pugh reference is intended only for "large collections of documents... literally

billions of 'Web site' documents," that the combination would not work. However, first of

all it is clearly stated in the Pugh reference, "The present invention concerns information

management and retrieval in general. More specifically, the present invention concerns

detecting, and optionally removing, duplicate and near-duplicate information or content,

such as in a repository of documents to be searched for example," (column 1, lines 7-11

of Pugh), is being used for the purposes of rejection and this interpretation in no way

"renders the prior art unsatisfactory for its intended purpose." While the examiner

agrees that the Pugh reference does discuss the use of the teachings in a web search

engine, it is not exclusive to this fact, thus the interpretation of the reference will not be

exclusive to this fact. The repository of documents to be searched in Pugh based on

the interpretations of both specifications can be identical to that of the repository of

Prager. At no point does adding the teachings of Pugh to the invention disclosed by

Prager render the Prager reference unusable.

In any case, the examiner would like to direct attention to the fact that the

teachings of Prager for categorization also include the use of the teachings with internet

search engines (column 1, lines 22-55 of Prager). The examiner points out that only in

one of the more advanced embodiments involving cross categorization does Prager

view his method unusable with vast search engine systems (column 8, lines 10-16 of

Prager), but for the simple objective of categorization (column 3, lines 8-10 of Prager)

no problem exists. Thus even if the Pugh reference is restricted to Internet search

engines the combination would remain proper and not deteriorate the usability of either

of the references. Thus, the combination of the references remains proper and motivation to combine exists, that is not detrimental to either reference.

Regarding the appellant's arguments on page 11, regarding claims 3 and 4 and whether or not Prager teaches calculating nearest neighbor scores and retaining lists of those scores, the examiner believes that the rejection is proper based on the cited portions of the Prager references. Prager teaches that K-nearest-neighbor (KNN) may be used to categorize the documents, and in the case of the teachings of Prager a "hit-list" is generated which is a list of the best-matching nearest neighbors to the document in question based on the similarity scores generated (column 2, lines 17-33 of Prager). Thus, Prager clearly discloses generated KNN scores which are then stored in the hit-list for the purposes of categorization (a purpose other than potentially duplicate document detention), and as stated in the rejection of independent claim 1 (on which claims 3 and 4 depend on) Pugh teaches that these scores may then be used for potentially duplicate document detection (column 7, line 26-column 8, line 28 of Pugh). Thus, as cited the rejection properly teaches the claimed limitations of claims 3 and 4.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

STEPHEN HONG
SUPERVISORY PATENT EXAMINER

Respectfully submitted,

Joshua Campbell

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